Date:

Monday, 5/15/2006 7:13:44 AM

User:

Linda Lacelle

Process Sheet

Customer Job Number : CU-DAR001 Dart Helicopters Services

,27085

Estimate Number

: 10559

P.O. Number

: 5/15/2006 This Issue

: NC

Prsht Rev. First Issue

: //

: 27084

Type

S.O. No. :

: LANDING GEAR

Part Number

Drawing Name

Drawing Number

: D412664203 : D412-664-243 REV B

: HIGH AFT X-TUBE 412

Project Number

: N/A **Drawing Revision**

Material **Due Date**

: 5/30/2006

Qty:

Um:

Each

Checked & Approved By

Comment

Written By

Previous Run

: Est Rev:E 04.02.16

Reformat; Added D3189-1 K/DS

Est Rev:F 06-03-29

Remove Coments on Pick List JLM

Additional Product

Job Number:



Seq. #:

Machine Or Operation:

Description:

1.0

DC



DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Photocopy bluefile and create labels as per PPP D412-664-203 CHG 003

2.0

D6009129

Crosstube Material





Comment: Qty.: 1.0000 Each(s)/Unit Total:

1.0000 Each(s)

Pick:

Qty Part number Description Batch 1 D6009-129 Crosstube 25942

Check OD = 3.500"; ID = 2.250"

06.05.17

3.0

MORI SEIKI

MORI SEIKI CNC LATHE LARGE



Comment: MORI SEIKI CNC LATHE LARGE

1-Fill tube with sand & install plugs DT8534 on both ends as per Folio FA166

2-Turn first side as per Folio FA166

3-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D412-664-243.

4.0

QC1

INSPECT ALL DIM TO DIM SHEET



Comment: INSPECT ALL DIM TO DIM SHEET



06/05/18

W/O:		WORK ORDER CH	IANGES				
DATE	STEP	PROCEDURE CHANGE	Ву	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector
		,					

NCR:			WORK ORD	ER NON-CONFORMANC	E (NCR)			
DATE STED Description of NC			Corrective Action Section B		Verification	Approval	Angraval	
DATE	STEP	Section A	Initial Design Mgr	Action Description Design Mgr	Sign & Date	Section C	Approval Design Mgr	Approval QC Inspector
						'		
	·							

Part No:	PAR #:	Fault Category:	NCR:	Yes No DQA :	:	Date:
NOTE: Date & initial all entries				QA: N/C Closed:		Date:

Date: Monday, 5/15/2006 7:13:44 AM Linda Lacelle User: **Process Sheet** Customer: CU-DAR001 Dart Helicopters Services Drawing Name: HIGH AFT X-TUBE 412 Job Number: 27085 Part Number: D412664203 Job Number: Seq. #: **Machine Or Operation:** Description: MORI SEIKI CNC LATHE LARGE 5.0 MORI SEIKI Comment: MORI SEIKI CNC LATHE LARGE 1-Turn second side as per Folio FA166 2-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D412-664-243. 3-Polish entire outside surface of crosstube 4- Remove sand and plugs 5-Scribe part # and batch # using vibrating stylus as per Dwg D412-664-243 MS 06/05/18 INSPECT ALL DIM TO DIM SHEET 6.0 QC1 MS 06/05/18 Comment: INSPECT ALL DIM TO DIM SHEET 7.0 SECOND CHECK QC8 BC 06-05.21 Comment: SECOND CHECK HAND FINISHING RESOURCE #1 HAND FINISHING 8.0 Comment: HAND FINISHING RESOURCE #1 06-06-02 Chemical Conversion Coat as per QSI 005 4.1 INSPECT WORK/WING WALK QC3/5 9.0 m'06-06-12(1) Comment: Inspect work & Chemical conversion Coat 10.0 BENDING **BENDING MACHINE**



Comment: BENDING MACHINE

Bend tube as per Dwg D412-664-243 using CNC bender program 412-af and Folio FT010



6-6-12

11.0

QC6

DIMENSIONAL CHECK



Comment: DIMENSIONAL CHECK



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	Ву	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector
			•			•	

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Initial	Corrective Action Section B Action Description	Sign &	Verification Section C	Approval Design Mgr	Approval QC Inspector
06.06·26	10.0	Upchine own bent the tube. Don't know why. Form - pulle of the tube is crappy.	Design Mar WB 31/09/26	Design Mgr Tube Scrap: clestroy. Be nicer to the muchine,	Date	16-0-03	06/09/26	1
			, ,			`	,	

Part No:	PAR #:	Fault Category:	NCR:	Yes 1	No	DQA:	Date:
NOTE: Date & initial all entries				QA: N/	C CI	osed:	Date:

Dàte: Monday, 5/15/2006 7:13:44 AM User: Linda Lacelle **Process Sheet** Drawing Name: HIGH AFT X-TUBE 412 Customer: CU-DAR001 Dart Helicopters Services Part Number: D412664203 Job Number: 27085 Job Number: Seq. #: Description: **Machine Or Operation:** LANDING GEAR RESOURCE 1 LANDING GEAR 1 12.0 Comment: LANDING GEAR RESOURCE 1 1-Drill pilot holes in tube as per Dwg D412-664-243 using drill Jig DT8550 & DT8551 2-Ream hole to finish size in tube as per Dwg D412-664-243using drill Jig DT8550 & DT8551.Check dimensions between holes, both sides on both cuffs, to ensure alignment with saddle holes. 3-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D412-664-243 HAND FINISHING RESOURCE #1 HAND FINISHING1 13.0 Comment: HAND FINISHING RESOURCE #1 Chemical Conversion Coat as per QSI 005 4.1 **OUTSIDE SERVICES** 14.0 OUTSIDE SERVICE Comment: Sub-Contracting OUTSIDE SERVICES Liquid Penetrant Inspection as per QSI 038Or _LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order PACKAGING RESOURCE #1 15.0 PACKAGING Comment: PACKAGING RESOURCE #1 Inspect for transit damage Ensure copy of NDT results attached to work order. DIMENSIONAL CHECK 16.0 QC6 Comment: Inspect for damage & ensure results are as per Dwg D412-664-203 SPRAY PAINTING SPRAY PAINTING 17.0

Comment: SPRAY PAINTING

1-Prime inside and outside crosstube as per QSI 005 4.2

2-Paint outside crosstube with White Imron as per QSI 005 4.2

W/O:			WOR	K ORDER CHANGES					
DATE	STEP	PR	OCEDURE CHANG	E	Ву	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector
NCR:				R NON-CONFORMANO	CE (NCR)				
DATE	STEP	Description of NC Section A	Initial	Action Description	Sign &	Verifica Section		Approval Design Mgr	Approval QC Inspector
			Design Mgr	Design Mgr	Date				
Part No);	PAR #:	Fault Category:	NCR: Y	es No I	DQA:		Date:	
NOTE: D	ate & initial	all entries		C	A: N/C Clo	ead.		Date:	

Date: Monday, 5/15/2006 7:13:45 AM User: Linda Lacelle **Process Sheet** Drawing Name: HIGH AFT X-TUBE 412 Customer: CU-DAR001 Dart Helicopters Services Part Number: D412664203 Job Number: 27085 Job Number: Description: Seq. #: **Machine Or Operation:** Inspect Spray Paint 18.0 QC14 **Comment:** Inspect Spray Paint Wrap in plastic bag to protect from scratches Abrasion Strip 19.0 Comment: Qty.: 1.7640 f(s)/Unit Total: 1.7640 f(s) Pick: Batch Qty Part number Description 2 D2856-600(Cut to 10.090") Abrasion Strip 20.0 D2856600 Abrasion Strip Comment: Qty.: Total: 1.0080 f(s) Pick: Qty Part number Description Batch 1 D2856-600(Cut to 10.870") Abrasion Strip D28961 Support 21.0 Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s) Pick: **Qty Part number Description Batch** 1 D2896-1 Support 22.0 D31891 Chafing Shield Comment: Qty.: 2.0000 Each(s)/Unit Total: 2.0000 Each(s) Pick: **Qty Part number Description Batch** 2 D3189-1 Chafing Sheild Clamp(per MiL-DTL-8783C) MS2192028 23.0 Comment: Qty.: 4.0000 Each(s) 4.0000 Each(s)/Unit Total: Pick: Description Batch Qty Part number 4 MS21920-28 Clamp _

W/O:			WOF	RK ORDER CHANGES)				
DATE	STEP	PRO	OCEDURE CHAN	GE	Ву	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector
						!			
							l		
NCR:			WORK ORDE	R NON-CONFORMAN	CE (NCR	.)			
DATE	STEP	Description of NC		Corrective Action Section B		Verific	ation	Approval	Approval
DAIE	SIEP	Section A	Initial Design Mgr	Action Description Design Mgr	Sign & Date	Section		Design Mgr	QC Inspector
,							į		
Part No	:	PAR #:	Fault Category:	NCR: \	∕es No	DQA:		Date:	
		all entries	5 ,		A N/C CL				

Jser: Lind	a Lacelle	Process Sheet	
Customer:	CU-DAR001 Dart Helicopters Services	Drawing Name: HIGH AFT X	-TUBE 412
Job Number:	27085	Part Number: D412664203	8
Job Number:			
Seq. #:	Machine Or Operation:	Description :	
24.0	MS2192030	clamp(per MIL-DTL-8783C)	
Comme	ent: Qty.: 2.0000 Each(s)/Unit Total : Pick: Qty Part number Description Batch 2 MS21920-30 Clamp	2.0000 Each(s)	
25.0	LANDING GEAR 1	LANDING GEAR RESOURCE 1	
Comme	ent: LANDING GEAR RESOURCE 1 Assemble as per Dwg D412-664-203		
26.0	QC5	INSPECT WORK TO CURRENT STEP	
	ent: INSPECT WORK TO CURRENT STEP		
27.0 Comme	PACKAGING 1 Packaging 1 Packaging Resource #1	PACKAGING RESOURCE #1	
28.0	Pick Packing Kit AN640A	Bolt	
	ent: Qty.: 4.0000 Each(s)/Unit Total : Bolt Batch:	4.0000 Each(s)	
29.0	AN641A	Bolt	
	ent: Qty.: 2.0000 Each(s)/Unit Total : Bolt Batch:	2.0000 Each(s)	
30.0	AN960JD616	Washer	
Comme	ent: Qty.: 18.0000 Each(s)/Unit Total : Washer Batch:	18.0000 Each(s)	

W/O:			WO	RK ORDER CHANGE	S				
DATE	STEP	PR	OCEDURE CHAN	GE	Ву	Date	Qty	Approval Mfg / Design Mgr	Approva QC Inspector
NCR:			WORK ORDE	R NON-CONFORMAN	ICE (NCF	R)			
		Description of NO		Corrective Action Section B		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	4.		
DATE	STEP Description of NC Section A	Description of NC Section A	Initial Design Mgr	Action Description Design Mgr	Sign 8 Date		cation ion C	Approval Design Mgr	Approval QC Inspector
Part No):	PAR #:	Fault Category	: NCR:	Yes No	DQA:		Date:	···
NOTE: D	ate & initial	all entries			QA: N/C C	osed:		Date:	

Date: Monday, 5/15/2006 7:13:45 AM User: Linda Lacelle **Process Sheet** Drawing Name: HIGH AFT X-TUBE 412 Customer: CU-DAR001 Dart Helicopters Services Part Number: D412664203 Job Number: 27085 Job Number: Seq. #: Description: **Machine Or Operation:** MS21042L6 Nut 31.0 Comment: Qty.: 6.0000 Each(s)/Unit Total: 6.0000 Each(s) Nut Batch: INSPECT 100% KITS FOR COMPLETENESS 32.0 QC4 Comment: INSPECT 100% KITS FOR COMPLETENESS PACKAGING RESOURCE #1 **PACKAGING** 33.0 Comment: PACKAGING RESOURCE #1 Identify and pack for shipping as per PPP D412-664-203 Location: PPP Rev:

34.0 DC

DOCUMENT CONTROL

Comment: DOCUMENT CONTROL

Inspection Level 21

Job Completion



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W/O:			WOF	RK ORDER CHANGES					
DATE	STEP	PROC	EDURE CHANG	GE	Ву	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector
							:		
NCR:		W	ORK ORDE	R NON-CONFORMANO	CE (NCR)			
		Description of NC	L	Corrective Action Section B		Verifica	ation	Approval	Approval
DATE	STEP	Section A	Initial Design Mgr	Action Description Design Mgr	Sign & Date	Section		Design Mgr	QC Inspector
		`							
		. *							
		;							
· 			·						
Part No):	PAR #: F	ault Category:	NCR: Y	'es No	DQA:		Date:	
NOTE: D	ate & initi	al all entries		C	A: N/C CI	osed:		Date:	

DART AEROSPACE LTD	Work Order:	
Description: Crosstube Assembly (412 High Aft)	Part Number:	D412-664-243
Inspection Dwg: D412-664-243 Rev: B	· · · · · · · · · · · · · · · · · · ·	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

X First Article Prototype

Inspection Sheet Drawing Dimension Tolerance		Actual Dimension	Accept	Reject	Method of Inspection	Comments	
	2.684	+0.005/-0.000	2.688				
	2.748	+0.005/-0.000	2.752	~			
	2.884	+0.005/-0.000	3.888	-			
	3.019	+0.005/-0.000	3.024	~			
	3.163	+0.005/-0.000	3.167				,
	3.308	+0.005/-0.000	3.312	~			
∢	3.429	+0.005/-0.000	3.432	~			
SIDE	2.990	+0.005/-0.000	2,994	~			
S	2.618	+0.005/-0.000	2.623	-			
	0.200	+/-0.010	*500	·			
	R0.063	+/-0.010	3063	<u> </u>			
	R0.500	+/-0.010	.SOO	~			
	4.971	+/-0.001	4.971	/			
	2.684	+0.005/-0.000	2.688				t.
	2.748	+0.005/-0.000	2.752	<u></u>			
	2.884	+0.005/-0.000	2888	<u></u>			
	3.019	+0.005/-0.000	3.023	_			
	3.163	+0.005/-0.000	3.167				
	3.308	+0.005/-0.000	3.3.12				
_	3.429	+0.005/-0.000,	3.433				-
EB	2.990	+0.005/-0.000	2.994	~			
SIDE	2.618	+0.005/-0.000	2.622				
	0.200	+/-0.010	.300				
	R0.063	+/-0.010	.063				
	R0.500	+/-0.010	,500				
	4.971	+/-0.001	4.971	<u> </u>			
	124.09	+/-0.020	124.09	~			

Measured by:	MS	Audited by:	736	Prototype Approval:	N/A
Date:	06/05/18	Date:	66.05.71	Date:	N/A

R	lev	Date	Change		Revised by	Approved
	Α	04.06.16	New Issue	(P/O D412-664-203)	KJ/JLM	
	В	06.03.09	Dwg Rev updated		KJ/JLM	

W/O:		WORK ORDER CHANGES								
DATE	STEP	PROCEDURE CHANGE	Ву	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector			

NCR:		,	WORK ORDER NON-CONFORMANCE (NCR)									
		Description of NC		Corrective Action Section B	Vorification							
DATE	STEP	Section A	Initial Design Mgr	Action Description Design Mgr	Sign & Date	Verification Section C	Approval Design Mgr	Approval QC Inspector				
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								_				

Part No:	PAR #:	Fault Category:	NCR:	Yes 1	Vo	DQA:	Date:	
NOTE: Date & initial all entries				QA: N/	C CI	osed:	Date:	